

# Don't let water take hold of your plant

ROCKWOOL ProRox solutions with WR-Tech™



PATENT  
PENDING



**Combat the risk of Corrosion Under Insulation**  
CUI is a major issue in the industry. It leads to higher maintenance costs and can cause pipe leaks or even ruptures. According to NACE\*, water-leachable salt, water retention, permeability and wettability all play a major role in mitigating the risk of CUI.

Our next generation ProRox mandrel wound stone wool pipe sections with WR-Tech™ (Water Repellency Technology) get to grips with CUI. They absorb less water, dry faster, are more durable and have a very low water-leachable salt content. Minimising the risk of corrosion under insulation. See for yourself at [rti.rockwool.com](http://rti.rockwool.com).

# This is how WR-Tech optimizes your plant

ROCKWOOL Technical Insulation has developed WR-Tech, an advanced Water Repellency Technology based on a unique binder that repels water. First introduced in our ProRox mandrel wound pipe sections, this innovative WR-Tech technology is now also available in the new generation of our ProRox mat (wrap). This enables us to help keep your plant safe, ensure operational effectiveness, reduce environmental impact and lower maintenance cost.



## 3 convincing arguments

Looking for a reason to implement our ProRox solutions with WR-Tech? We give you three.

### 1. REDUCE THE RISK OF CUI

Half of all hazardous events in industrial plants (such as pipe leakages or ruptures) are caused by aging mechanisms like erosion, corrosion and fatigue.<sup>1</sup> So mitigating the effects of CUI improves the safety of people working in a plant.

### 2. ENSURE CONTINUOUS PROCESS OPERATIONS

Thermal conductivity of water is 25x that of air, so the thermal insulating effect of insulation material decreases when water gets in. 5 Vol-% of moisture decreases the thermal resistance of insulation by 25%.<sup>2</sup> The optimal thermal resistance of dry insulation minimizes thermal losses and CO<sub>2</sub> emissions and ensures a continuous production process.

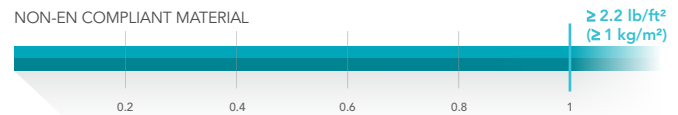
### 3. MINIMIZE TOTAL MAINTENANCE COSTS

By using insulation that absorbs less water, you reduce the risk of CUI and unintended energy losses (which could lead to process stops). This significantly reduces total maintenance costs.

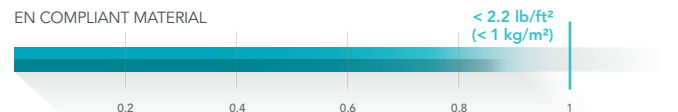
## LOWEST WATER ABSORPTION

The highest water repellency results in **5x lower water absorption** than the best available standard EN 13472, maximizing water flow away from insulation material. And **after heating and aging there is no reduction in the highest water repellency.**

NON-EN COMPLIANT MATERIAL



EN COMPLIANT MATERIAL

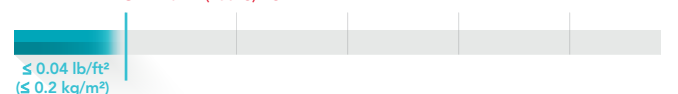


## PROROX WITH WR-TECH

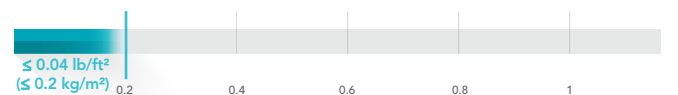
NON HEATED, NON AGED



AFTER HEATING AT 482°F (250°C) FOR 24H



AFTER AGING IN AMBIENT CONDITIONS FOR 6 MONTHS



**< 5X LESS WATER ABSORPTION, EVEN AFTER HEATING AND AGING**

<sup>1</sup> Horrocks, P., Mansfield, D., Parker, K., Thomson, J., Atkinson, T., Worsley, J., ... & Park, B. (2010). Managing Ageing Plant. HSE, Warrington, UK, Tech. Rep, 823.

<sup>2</sup> BFA WKS (2016). Moisture in insulation systems. Berlin, Germany, Technical letter 11.

# What does NACE\* say?

\* National Association of Corrosion Engineers - NACE SP0198-2017 (2.1.2)

CUI of carbon steel is possible under all types of insulation. The insulation type may only be a contributing factor. The insulation characteristics with the most influence on CUI are:

- Water retention, permeability and wettability of the insulation
- Water-leachable salt content in insulation, such as chloride, sulphate and acidic materials that may contribute to corrosion

“Because CUI is a product of wet metal exposure duration, the insulation system that holds the least amount of water and dries most quickly should result in the least amount of corrosion damage to equipment.”



## SILICONE OIL FREE

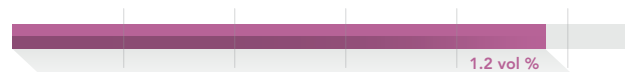
Complies with VW specification PV 3.10.7, does not result in fish-eyes, usable in paint shops.

## FASTEST WATER DISSIPATION

The vapor open structure ensures that **water can evaporate freely** if it could reach the pipe surface and ensures the fastest dry-out time according ASTM C1763.

## PROROX WITH WR-TECH

2 HOURS' IMMERSION



AFTER 2 HOURS' RECOVERY



AFTER 48 HOURS' RECOVERY



## LOW WATER LEACHABLE CHLORIDE CONTENT

Safe to use over steel.

Complies with strict industry standards ASTM C795 and EN 13468.

NON-EN COMPLIANT MATERIAL



PROROX WITH WR-TECH



\*\*ROCKWOOL Technical Insulation has developed WR-Tech, an advanced water repellency technology based on a unique binder that repels water and has a low chloride content. ROCKWOOL Group recognises innovative solutions that create value for our customers and is keen to protect them. Patents are pending for the WR-Tech technology and we take pride in and care of our patent portfolio worldwide.

# These ROCKWOOL ProRox solutions are available with WR-Tech:



## ProRox mandrel wound pipe sections

for easy & fast insulation of pipework

These pipe sections are produced with an innovative water repellent binder, known as WR-Tech™, to mitigate the risk of corrosion under insulation (CUI). WR-Tech ensures our stone wool maintains its superior water repellency even at elevated operating temperatures within the CUI range, while preserving its excellent thermal performance in use.

### ProRox PS 960

The highly durable insulation sections come split and hinged for easy snap-on assembly and are especially suitable for the thermal and acoustic insulation of industrial pipework, marine and offshore installations.



## ProRox mats (wrap)

for insulation of medium to large diameter pipework, vessels and columns

These rolled stone wool insulation mats (wrap) faced are as standard with black fibrous scrim. Reinforced aluminium foil facing is available upon request. The mats (wrap) are produced with an innovative water repellent binder, known as WR-Tech™, to mitigate the risk of corrosion under insulation (CUI).

### ProRox MA 961

The mat (wrap) is suitable for the thermal and acoustic insulation of high-temperature industrial applications subjected to light mechanical loads, such as large diameter piping, vessels, ducts and equipment.

Ask your local sales representative for more details and the full overview of ROCKWOOL ProRox solutions with WR-Tech™.



## We have a winner!

WR-Tech™, our revolutionary Water Repellency Technology for combatting corrosion under insulation, is a winner of the 2019 Materials Performance Corrosion Innovation of the Year Awards.



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